

REMARKS

Claims 1 and 14-25 are pending in the application. Claim 1 is amended herein and claims 26 and 27 are new, support for which can be found at least at paragraphs [0144]-[0157] of the published Application. No new matter is added. Applicants respectfully request reconsideration and allowance in light of the foregoing amendments and the following remarks herein.

Claim Rejections Under 35 U.S.C. § 103

Claims 1 and 14-25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Yamashita et al. U.S. Patent Application Publication US 2003/0162112 A1 (“Yamashita”) in view of Imai et al. U.S. Patent 5,639,582 (“Imai”) and International Publication WO 02/056116 A1 English translation Emoto et al. U.S. Patent Application Publication US 2004/0053155 A1 (“Emoto”).

Claim 1 refers to a thin-film coated toner that is a ground, powder toner with a softening temperature ranging from 50 to 150°C whose surface is coated substantially continuously with a thin film comprising a urea-based thermosetting resin. The thin film-coated toner is shaped after coating by heating to a temperature to fuse the powder toner but to cause no thermal breakage of the thermosetting resin. This step allows for an efficient and low-cost process by which to provide the thin-film coated toner particles with an enhanced sphericity. The substantially continuous thin-film coating on the toner particles allows the particles to be heat shaped without coalescing (which resulting in increased blocking) and without substantial leakage of the encapsulated toner. The thin-film coated toner particles having an increased sphericity provide good toner conveyability and resolution of formed images at a relatively low cost.

The applied references fail to describe or suggest either alone or in combination a thin-film coated toner “wherein the thin-film coated toner is shaped by heating in a temperature

range to fuse the powder toner and that causes no thermal breakage of the thermosetting resin to provide 70 percent by mass or more thin-film coated toner particles with a sphericity (DSF) of 0.85 or more..." as presently recited in claim 1. In other words, there is no disclosure in any of the applied references of a heat molding step conducted after providing a thin-film coating.

Yamashita is applied as describing a toner provided by "a melt-kneading-pulverizing method which comprises kneading the toner near the softening point of the binder and further grinding the toner" (Office Action, page 2). The Office Action further applies Yamashita as describing that "the toner may have a urea-modified polyester generated on the surface of the toner" (*Id.*). However, the disclosure of Yamashita fails to describe or suggest the present claims as Yamashita's pulverization step would disrupt any substantially continuous thin film present on the surface of the toner particle during Yamashita's shaping step. If Yamashita's toner particles were coated prior to the melt-kneading and pulverizing process, the pulverization process could result in the surfaces of the coated particles no longer being substantially continuously coated. The pulverization would cause fracturing and breakage of the thin film from the surface of the toner particle thereby resulting in the surface no longer having a substantially continuous thin film. Further, if Yamashita's particles were ground and then coated, the ground particles would have uneven shapes as are often associated with ground particles. Yamashita fails to disclose or suggest a thin-film coated toner particle having a substantially continuous thin film that is shaped by heating to a temperature in the range to fuse the powder toner and that causes no thermal breakage of the thermosetting resin in order to provide the desired sphericity. In other words, Yamashita does not describe or suggest shaping following the formation of a coating on the surface of the toner.

Imai and Emoto do not cure the failings of Yamashita. Imai describes various shell-forming resins that may be used to encapsulate toner and processes for such encapsulation, however, Imai does not describe or suggest shaping of the toner particles following his encapsulation process. Emoto describes a process for providing an electrophotographic toner having a preferred sphericity. However, Emoto describes using a wet-pulverization process to

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obtain the desired sphericity of his particles (*see* Emoto, ¶35), and such a pulverization step would disrupt any substantially continuous thin-film coating present on the surface if such a coating was even present. Similar to Yamashita, Imai and Emoto fail to disclose or suggest a thin-film coated toner particle having a substantially continuous thin film that is shaped by heating to a temperature in the range to fuse the powder toner and that causes no thermal breakage of the thermosetting resin in order to provide the claimed sphericity. Therefore, it would not be obvious to heat molding the thin-film coated toner particle after the forming of the thin-coating based on the applied references.

For all the reasons set forth above, the Applicants respectfully request entry of the present amendment, reconsideration and withdrawal of the rejections to claims 1 and 14-25, and an allowance.

Applicants hereby request under 37 C.F.R. §1.136(a)(3) by this general authorization that any concurrent or future reply submitted by Applicants to the United States Patent and Trademark Office for the above-identified patent application requiring a petition for an extension of time under §1.136(a) for its timely submission be treated as incorporating therein a petition for an extension of time for the appropriate length of time. If Applicants do not timely pay for any extension fees pursuant to 37 C.F.R. §1.136(a) which may become due for this application under 37 C.F.R. §1.17, the Commissioner is hereby authorized to charge such fees, and any additional fees which may be required in this application under 37 C.F.R. §§1.16-1.17

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during its entire pendency, or credit any overpayment, to Deposit Account No. 06-1135
regarding our order number 7398-84282.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

Dated: February 23, 2011

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